

Work Order ID 115502

April-02-14 11:13:41 AM

115502

Page 1

Item ID: D3391-021

Revision ID:

Item Name: Fwd Tube Assembly

Start Date: 4/02/14 Start Qty: 1.00 *1*

Required Date: 4/16/14 Req'd Qty: 1.00 *1*

Reference:

Approvals: Process Plan: _____ Date: _____

QC: _____ Date: _____

Accept

N900040100

Setup Start *NS1*

Stop *NS2*

Cust Item ID:

Customer:

Tooling: _____ Date: _____

SPC (Y/N): _____ Date: _____

Run Start *NR1*

Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

Draw Nbr	Revision Nbr
D3391	I

100

100

Skidtubes

Skidtubes

Skidtubes

Memo

Cut as per dwg.

0.00

0.00

110

110

CNC Bend 1

CNC Delta 100 Bender

BENDING MACHINE - SKIDTUBES

Memo

Bend as per Dwg D3391 Using Bend Prog 3391021

0.00

0.00

120

120

QC

Quality Control

QC5- Inspect part completeness to step on W/O

Memo

0.00

0.00

7
SLIP

DC 14/04/14

DC 14/04/15

DAS
03
9-89

DP 14-4-15

H-6.8

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Reference:

Accept

N900040100

Setup Start *NS1*

Stop *NS2*

Cust Item ID:

Customer:

Approvals: Process Plan: _____ Date: _____

QC: _____ Date: _____

Tooling: _____ Date: _____

SPC (Y/N): _____ Date: _____

Run Start *NR1*

Stop *NR2*

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

130

130

HAAS 1

HAAS CNC VERTICAL MACHINING #1

Memo

1-Machine as per Folio FA590

Rev. _____ & Dwg D3391 Rev. _____

Identify as D3391-1

2-Debur

0.00

0.00

0

1

1/4
14/03/07

140

140

QC

Quality Control

QC2- Inspect parts off machine FAI/FAIB

Memo

0.00

0.00

150

150

Mill Conv

CONVENTIONAL MILLING MACHINE

Memo

Drill X1 Aft cap as per Dwg D3391 .1875" dia

0.00

0.00

P10

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: <u>115502</u> Part No. <u>03391-021</u> NCR No. _____	DISPOSITION Rework <input type="checkbox"/> Scrap <input checked="" type="checkbox"/> Use-as-is <input type="checkbox"/> Suspected Unapproved <input type="checkbox"/>	<table style="width:100%;"> <tr> <td style="width:15%;"> Skid-tube Machining <input checked="" type="checkbox"/> Thermoforming <input type="checkbox"/> Large Fab <input type="checkbox"/> </td> <td style="width:15%;"> Crosstube <input type="checkbox"/> Small Fab <input type="checkbox"/> Finishing <input type="checkbox"/> Composite <input type="checkbox"/> </td> <td style="width:15%;"> Water Jet <input type="checkbox"/> Prod. Eng. Coord. <input type="checkbox"/> Rec/Store/Packaging <input type="checkbox"/> Supplier <input type="checkbox"/> </td> <td style="width:15%;"> Engineering Quality <input type="checkbox"/> Other <input type="checkbox"/> </td> </tr> </table>	Skid-tube Machining <input checked="" type="checkbox"/> Thermoforming <input type="checkbox"/> Large Fab <input type="checkbox"/>	Crosstube <input type="checkbox"/> Small Fab <input type="checkbox"/> Finishing <input type="checkbox"/> Composite <input type="checkbox"/>	Water Jet <input type="checkbox"/> Prod. Eng. Coord. <input type="checkbox"/> Rec/Store/Packaging <input type="checkbox"/> Supplier <input type="checkbox"/>	Engineering Quality <input type="checkbox"/> Other <input type="checkbox"/>
Skid-tube Machining <input checked="" type="checkbox"/> Thermoforming <input type="checkbox"/> Large Fab <input type="checkbox"/>	Crosstube <input type="checkbox"/> Small Fab <input type="checkbox"/> Finishing <input type="checkbox"/> Composite <input type="checkbox"/>	Water Jet <input type="checkbox"/> Prod. Eng. Coord. <input type="checkbox"/> Rec/Store/Packaging <input type="checkbox"/> Supplier <input type="checkbox"/>	Engineering Quality <input type="checkbox"/> Other <input type="checkbox"/>			

Root Cause	Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design	14/05/07	130	1	Part moved. Slot out of place. Wise not tight enough. Re. Machining Process / tooling clampin tool has no set pressure	DAS 16 9-89 02043 14/05/07 M 11/05/07	Scrap and destroy.	MH 14/05/07		DAS 16 9-89 022042 14/05/07
Doc/Data									
Equip/Tooling									
Handling/Pre									
Material									
Operator									
Offset/Setup									
Process									
Supplier									
Training									
Transport									
Unapproved									

FAULT CATEGORY

Landing Gear <input type="checkbox"/> Bending <input type="checkbox"/> Centre Not Concentric <input type="checkbox"/> Cracks <input type="checkbox"/> Crimp/Kink/Ripple/Wave <input type="checkbox"/> Cuffs <input type="checkbox"/> Crushing <input type="checkbox"/> Heat Treat <input type="checkbox"/> Inspection Strip in Tube <input type="checkbox"/> Marks/Chatter <input type="checkbox"/> Turning Sequence <input type="checkbox"/> Wave/Twist in Tube	General <input type="checkbox"/> Bend <input type="checkbox"/> BOM/Route <input type="checkbox"/> Broken/Damage/Defect <input type="checkbox"/> Burrs <input type="checkbox"/> Contamination <input type="checkbox"/> Countersink <input type="checkbox"/> Cut Too Short <input type="checkbox"/> Drawing <input type="checkbox"/> Drill Holes <input type="checkbox"/> Finish <input type="checkbox"/> Fit/Function	<input type="checkbox"/> Folio/Program <input type="checkbox"/> Grain <input type="checkbox"/> Hardware <input type="checkbox"/> Inspection Incomplete/Unqualified <input type="checkbox"/> Instructions Incomplete/Unclear <input type="checkbox"/> Misaligned/off center <input type="checkbox"/> Mislabeled <input type="checkbox"/> Misread <input type="checkbox"/> Off-set <input type="checkbox"/> Out of Calibration <input type="checkbox"/> Out of Sequence <input type="checkbox"/> Outside Dimensions <input type="checkbox"/> Over/Under tolerance <input type="checkbox"/> Part Incorrect <input type="checkbox"/> Part Lost/Missing <input checked="" type="checkbox"/> Part Moved <input type="checkbox"/> Positioned Wrong <input type="checkbox"/> Power Loss/Surge <input type="checkbox"/> Pressure/Forced Set-up <input type="checkbox"/> Temperature/Cure <input type="checkbox"/> Weld <input type="checkbox"/> Wrong Stock Pulled <input type="checkbox"/> Other
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Revision ID:

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Start Date: 4/02/14 Start Qty: 1.00 *1*

Required Date: 4/16/14 Req'd Qty: 1.00 *1*

Reference:

Accept

N900040100

Setup Start *NS1*

Stop *NS2*

Cust Item ID:

Customer:

Approvals: Process Plan: _____ Date: _____

QC: _____ Date: _____

Tooling: _____ Date: _____

SPC (Y/N): _____ Date: _____

Run Start *NR1*

Stop *NR2*

Sequence ID/
Work Center IDOperation
Description

160

QC2- Inspect parts off machine FAI/FAIB

160

QC

Memo

Quality Control

Set Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

0.00

0.00

170

QC8- Inspect parts - second check

170

QC

Memo

Quality Control

0.00

0.00

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Item ID: D3391-021**Revision ID:****Item Name:** Fwd Tube Assembly**Start Date:** 4/02/14 **Start Qty:** 1.00 ***1*****Required Date:** 4/16/14 **Req'd Qty:** 1.00 ***1*****Reference:****Accept*****N900040100*****Setup Start *NS1*****Stop *NS2*****Cust Item ID:****Customer:****Approvals:** **Process Plan:** _____ **Date:** _____**QC:** _____ **Date:** _____**Tooling:** _____ **Date:** _____**SPC (Y/N):** _____ **Date:** _____**Run Start *NR1*****Stop *NR2*****Sequence ID/
Work Center ID****Operation
Description****Set Up/
Run Hours****Tool ID****Tool #****Plan
Code****Accept
Qty****Reject
Qty****Reject
Number****Insp.
Stamp**

180

0.00

180

0.00

Skidtubes

Skidtubes

Memo

1-Drill Remaining two holes for tow cap using DT 8819 Locating off of .1875" holes drilled in previous step

2-Drill float bag holes as per Dwg D3391 using DT8798(Do not open tow cap holes to finish size)
(ONLY DRILL HOLES MARKED "A")

3-Open tow cap holes to .208" as per Dwg D3391

4-Open Tow Ring hole to .640" as per Dwg D3391

5- open float bag holes 0.328" and counter sink as per dwg D3391

6-Deburr & Scribe Batch number Inside aft end.

7-Transfer drill D3391-021 with D3391-023

NO WEARPLATE HOLES ARE TRANSFER DRILLED
MID TUBE BATCH # _____

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Required Date: 4/16/14 Req'd Qty: 1.00 *1*

Reference:

Accept

N900040100Setup Start ***NS1***Stop ***NS2***

Cust Item ID:

Customer:

Approvals: Process Plan: _____ Date: _____

QC: _____ Date: _____

Tooling: _____ Date: _____

SPC (Y/N): _____ Date: _____

Run Start ***NR1***Stop ***NR2***Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

190

QC5- Inspect part completeness to step on W/O

0.00

190

QC

Memo

0.00

Quality Control

200

Chemical Conversion Coat per QSI005 4.1

0.00

200

HandFinish

Memo

0.00

Hand Finishing

210

QC7-Inspect Chemical Conversion Coat

0.00

210

QC

Memo

0.00

Quality Control

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Start Date: 4/02/14 Start Qty: 1.00 *1*

Required Date: 4/16/14 Req'd Qty: 1.00 *1*

Reference:

Accept

N900040100

Setup Start *NS1*

Stop *NS2*

Cust Item ID:

Customer:

Approvals: Process Plan: _____ Date: _____

QC: _____ Date: _____

Tooling: _____ Date: _____

SPC (Y/N): _____ Date: _____

Run Start *NR1*

Stop *NR2*

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID

Tool #

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

220

220

Skidtubes

Skidtubes

Memo

1-instal spacers as per dwg D3391

A/R Magnabond 6398 batch: _____

exp. date: _____

cure time 12hrs. as per QSI015

2- grind crossbolt flush

3-back drill crossbolt if necessary

0.00

0.00

230

230

QC

Quality Control

QC5- Inspect part completeness to step on W/O

Memo

0.00

0.00

235

235

HandFinish

Hand Finishing

Pressure Wash per QSI005 4.3

Memo

AND REALODINE AS PER QSI 005

0.00

0.00

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Item ID: D3391-021

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Start Date: 4/02/14 Start Qty: 1.00 *1*

Required Date: 4/16/14 Req'd Qty: 1.00 *1*

Reference:

Accept

N900040100Setup Start ***NS1***Stop ***NS2***

Cust Item ID:

Customer:

Approvals: Process Plan: _____ Date: _____

QC: _____ Date: _____

Tooling: _____ Date: _____

SPC (Y/N): _____ Date: _____

Run Start ***NR1***Stop ***NR2***Sequence ID/
Work Center IDOperation
Description

240

White Gloss(Ref:4.3.5.1) per QSI005 4.3-Alum

240

Powdercoat

Powder Coating

Memo

START TIME: _____

OVEN TEMPERATURE: _____

FINISH TIME: _____

Set Up/
Run Hours

0.00

0.00

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

250

QC3- Inspect Part Finish

250

QC

Quality Control

Memo

0.00

0.00

254

Assemble as per dwg

254

HandFinish

Hand Finishing

Memo

0.00

0.00

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Item ID: D3391-021**Revision ID:****Item Name:** Fwd Tube Assembly**Start Date:** 4/02/14 **Start Qty:** 1.00 ***1*****Required Date:** 4/16/14 **Req'd Qty:** 1.00 ***1*****Reference:****Accept*****N900040100*****Setup Start *NS1*****Stop *NS2*****Cust Item ID:****Customer:****Approvals:** **Process Plan:** _____ **Date:** _____**QC:** _____ **Date:** _____**Tooling:** _____ **Date:** _____**SPC (Y/N):** _____ **Date:** _____**Run Start *NR1*****Stop *NR2*****Sequence ID/
Work Center ID****Operation
Description****Set Up/
Run Hours****Tool ID****Tool #****Plan
Code****Accept
Qty****Reject
Qty****Reject
Number****Insp.
Stamp**

256

QC5- Inspect part completeness to step on W/O

0.00

256

QC

Memo

0.00

Quality Control

260

Identify as per dwg & Stock Location: _____

0.00

260

Packaging

Memo

0.00

Packaging

280

QC21- Final Inspection - Work Order Release

0.00

280

QC

Memo

0.00

Quality Control

u 14.05.07

Picklist Print

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Page 1

Work Order ID: 115502

115502

Parent Item: D3391-021

D3391-021

Parent Item Name: Fwd Tube Assembly

Start Date: 4/02/14

Required Date: 4/16/14

Start Qty: 1.00

Required Qty: 1.00

Comments: IPP A05.09.13New issue KJ/JLM
 IPP B06.02.10Dwg rev.D ecn 773 EC
 IPP C06.05.02Added inspections EC
 IPP D 07.03.13 rev F dwg EC
 IPP E 07.11.07 revG dwg ecn1053P EC verified by: DD
 IPP Rev:f ECN 1056 07-11-12 DD verified by: EC
 IPP Rev:G 08-09-08 new process (ecn 08-510) DD verified by:EC
 IPP Rev:H 08-09-10 revH as per dwg DD verified by:EC
 IPP Rev I 09.02.02 added hardware EC verified by: DD IPP Rev:J
 11.11.14 AS PER REV.I DD verified by:JLM

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
---------------------------------	------------------------	---------------	-------------	---------------------	------------------	-----------------	--------------------	----------------	-------------	--------------	---------------	----------------	--------

D4095-051 Manufactured No

Each 9.0000 1

D4095-051

Wearpad Assembly

Location

Loc Qty

Loc Code

FP001

9

108291

9

D6013-047 Manufactured No

100 Each 166.0000 1

D6013-047

Skidtube Material

Location

Loc Qty

Loc Code

LG003

166

72505

42

86064

124

DC 14/04/14

①

Picklist Print

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Work Order ID: 115502

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Parent Item: D3391-021

D3391-021

Parent Item Name: Fwd Tube Assembly

Start Date: 4/02/14

Required Date: 4/16/14

Start Qty: 1.00

Required Qty: 1.00

D3670-4-200

Manufactured No

220 Each 300.0000 4 4

D3670-4-200

Bushing

Location

Loc Qty

Loc Code

FG	10	
87709	10	
LG001	290	
103880	39	
109108	242	
96240	9	

D3401-041

Manufactured No

Each 30.0000 1

D3401-041

Tow Cap Assembly

Location

Loc Qty

Loc Code

FP001	30	
103868	5	
109127	9	
92680	1	
94116	4	
94303	11	

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Shop Packet Print

Page 2

Picklist Print

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Work Order ID: 115502

115502

Parent Item: D3391-021

D3391-021

Parent Item Name: Fwd Tube Assembly

Start Date: 4/02/14

Required Date: 4/16/14

Start Qty: 1.00

Required Qty: 1.00

NAS1149C0332R

Purchased

No

Each

9,644.000

10

NAS1149C0332R

WASHER

Location

Loc Qty

Loc Code

GA

1005

125654

1005

ST292

4968

m128591

4968

st510

3671

m126319

61

m127306

2500

m127410

1084

m127831

26

Each

2,208.000

10

AN3C4A

Purchased

No

AN3C4A

Bolt

Location

Loc Qty

Loc Code

FG

20

122814

20

ST350/513

1000

M128606

1000

ST512

3

124221

3

ST513

1185

125388

122

M127410

1

M127832

62

M128634

1000

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Shop Packet Print

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Picklist Print

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Work Order ID: 115502

115502

Parent Item: D3391-021

D3391-021

Parent Item Name: Fwd Tube Assembly

Start Date: 4/02/14

Required Date: 4/16/14

Start Qty: 1.00

Required Qty: 1.00

D3672-1

Manufactured No

Each

1,420.000

4

D3672-1

Phenolic Washer

Location

Loc Qty

Loc Code

FG

10

85222

10

ST060

1410

103845

4

112218

500

113581

500

93886

224

99099

182

AELS-1032-225

AELS8-1032-225 Purchased

No

Each

400.0000

10

AFI S-1032-225

Insert

Location

Loc Qty

Loc Code

ST280

400

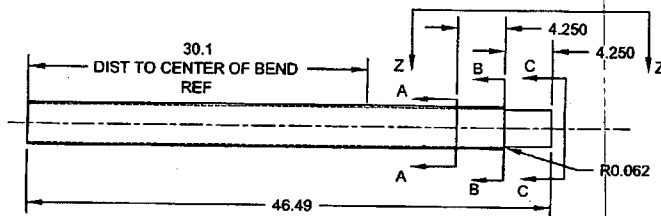
m128179

400

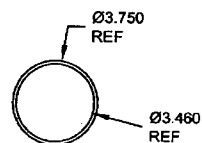
April-02-14 11:13:45 AM

Shop Packet Print

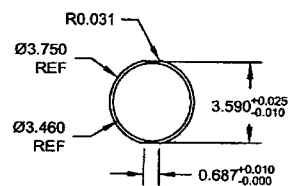
Page 4



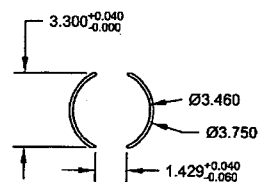
D3391-1 CUTTING DETAIL
(MAKE FROM D6013-047 SKIDTUBE MATERIAL)



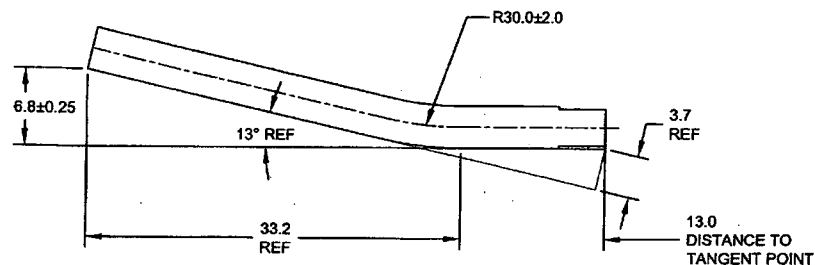
SECTION A-A
SCALE 2X



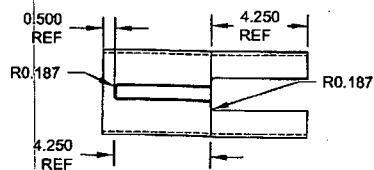
SECTION B-B
SCALE 2X



SECTION C-C
SCALE 2X



D3391-011/-021 BENDING DETAIL
(MAKE FROM D3391-1)

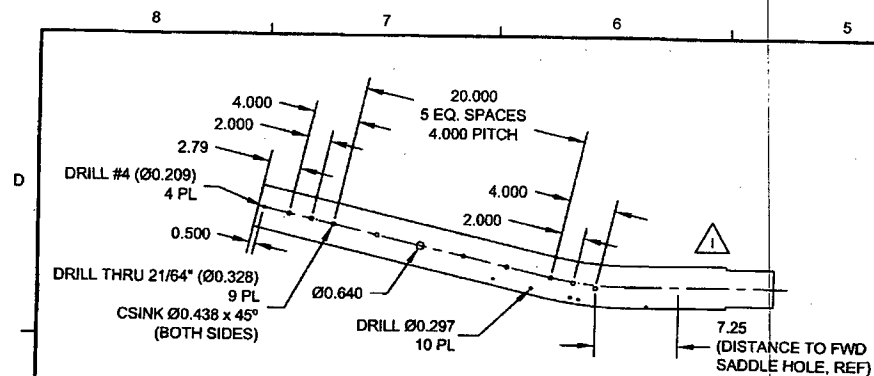


VIEW Z-Z
SCALE 2X

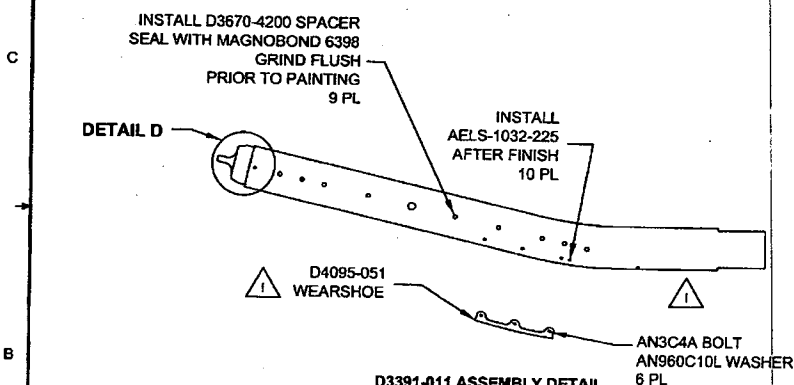
115502

RELEASED
2011-11-04

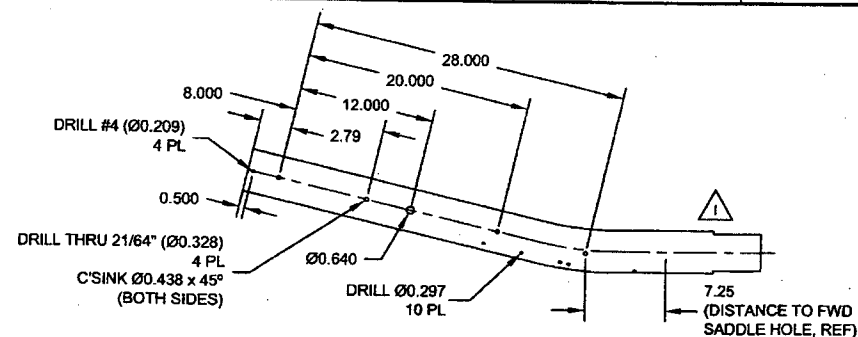
DESIGN	PH	DART AEROSPACE USA, INC	
DRAWN	XDF	KENT, WA	
CHECKED		DRAWING NO. D3391	REV. I
MFG. APPR.		SHEET 3 OF 8	
APPROVED		TITLE SCALE	
DE APPR.		412 FLOAT SKIDTUBE NTS	
DATE	11.10.13	<small> COPYRIGHT © 2013 BY DART AEROSPACE USA, INC THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSONS WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC. </small>	



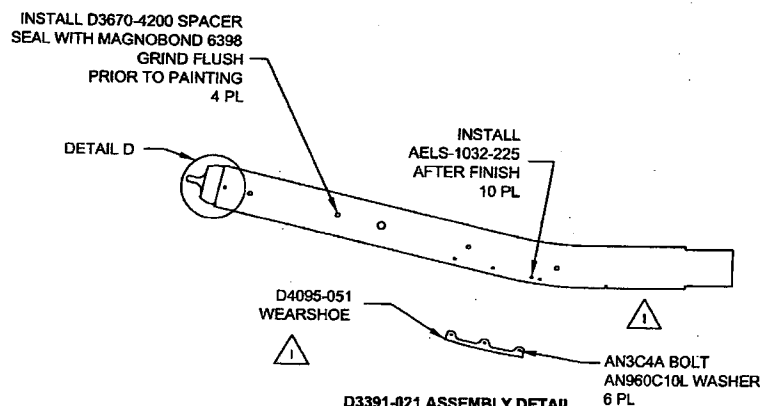
D3391-011 DRILLING DETAIL



D3391-011 ASSEMBLY DETAIL



D3391-021 DRILLING DETAIL



D3391-021 ASSEMBLY DETAIL

D3391-011/-021 FWD TUBE ASSEMBLY PARTS LIST

QTY - 011	QTY - 021	PART NUMBER	DESCRIPTION
X	X	D3391-011	FWD TUBE ASSEMBLY
		D3391-021	FWD TUBE ASSEMBLY
1	1	D3401-041	TOW CAP
9	4	D3670-4200	SPACER
4	4	D3672-1	WASHER
1	1	D4095-051	WEARSHOE
1	1	D6013-047	FWD TUBE
10	10	AN3C4A	BOLT
10	10	AN960C10L	WASHER
10	10	AELS-1032-225	INSERT

SEAL WITH
SIKAFLEX-241/-291

D3401-041
TOW CAP

DETAIL D
SCALE 2X

AN3C4A BOLT
D3672-1 WASHER
AN960C10L WASHER
4 PL

RELEASED
2011-11-04

DESIGN	PH	DART AEROSPACE USA, INC	
DRAWN	XDF	KENT, WA	
CHECKED	<i>[Signature]</i>	DRAWING NO.	REV. 1
MFG. APPR.	<i>[Signature]</i>	D3391	SHEET 4 OF 8
APPROVED	<i>[Signature]</i>	TITLE	SCALE
DE APPR.	<i>[Signature]</i>	412 FLOAT SKIDTUBE	NTS
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